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| <u>L2</u> | L1 same (queue\$3 or buffer\$3)                                       | 204 | <u>L2</u> |
| <u>L1</u> | (transaction or task or job) near3 (reorder\$3 or (re adj1 order\$3)) | 624 | <u>L1</u> |

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| <u>L4</u>                                    | 710/110,107,263,41,52,311;709/100,208;714/47;711/151;718/100-108.ccls. | 13445                      | <u>L4</u>                               |
| <u>L3</u>                                    | L2 and ((without or "not") adj3 (signal\$3 or inform\$3))              | 8                          | <u>L3</u>                               |
| <u>L2</u>                                    | L1 same (queue\$3 or buffer\$3)  | 204                        | <u>L2</u>                               |
| <u>L1</u>                                    | (transaction or task or job) near3,(reorder\$3 or (re adj1 order\$3))  | 624                        | <u>L1</u>                               |

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|           |  |       |           |
|-----------|--|-------|-----------|
| <u>L5</u> | l2 and L4  | 54    | <u>L5</u> |
| <u>L4</u> | 710/110,107,263,41,52,311;709/100,208;714/47;711/151;718/100-108.ccls. | 13445 | <u>L4</u> |
| <u>L3</u> | L2 and ((without or "not") adj3 (signal\$3 or inform\$3))              | 8     | <u>L3</u> |
| <u>L2</u> | L1 same (queue\$3 or buffer\$3)  | 204   | <u>L2</u> |
| <u>L1</u> | (transaction or task or job) near3 (reorder\$3 or (re adj1 order\$3))  | 624   | <u>L1</u> |

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- ☐ Drafts
- ☐ Pending
- ☒ Active
  - ☒ L1: (339) (transaction or ta
  - ☒ L2: (123) 11 same (queu\$3 or
  - ☒ L3: (45) 12 same (slave or d
- ☐ Failed
- ☐ Saved
- ☐ Favorites
- ☐ Tagged (0)
- ☐ UDC
- ☐ Queue
- ☐ Trash

DBs: USPAT

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| 1 | BRS  | L1  | 339  | (transaction or task or<br>job) near3 (reorder\$3 or | USPAT | 2007/07/23<br>13:00 |          |                  |     |
| 2 | BRS  | L2  | 123  | 11 same (queu\$3 or<br>buffer\$3)                    | USPAT | 2007/07/23<br>13:01 |          |                  |     |
| 3 | BRS  | L3  | 45   | 12 same (slave or device<br>or (I adj1 O) or (input  | USPAT | 2007/07/23<br>13:03 |          |                  |     |

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12 same (slave or device or (I adj1 O) or (input adj1 output))

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|---|--------------------------|--------------------------|---------------|------------|-------|---|------------|----------------------|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | US 7181556 B2 | 20070220   | 17    | Transaction request servicing mechanism               | 710/110    | 370/389;<br>709/230; |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | US 7162546 B2 | 20070109   | 5     | Reordering unrelated transactions from an ordered     | 710/5      | 710/33;<br>710/36;   |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | US 7139859 B2 | 20061121   | 10    | Inter-queue ordering mechanism                        | 710/306    | 710/311;<br>710/315  |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> | US 7103684 B2 | 20060905   | 18    | Single-chip USB controller reading power-on boot code | 710/62     | 710/20;<br>710/22;   |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> | US 7099986 B2 | 20060829   | 127   | High speed peripheral interconnect apparatus,         | 710/314    | 710/306;<br>710/311  |

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## » Key

IEEE JNL IEEE Journal or Magazine

IET JNL IET Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IET CNF IET Conference Proceeding

IEEE STD IEEE Standard

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- ☐ 1. **Efficient job scheduling in a mesh multicomputer without discrimination jobs**  
Dugki Min; Mutka, M.W.;  
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## Efficient job scheduling in a mesh multicomputer without discrimination against large jobs

Dugki Min Mutka, M.W.

Dept. of Comput. Sci., Kon-Kuk Univ., Seoul, South Korea;

This paper appears in: [Parallel and Distributed Processing, 1995. Proceedings. Seventh IEEE Symposium on](#)

Publication Date: 25-28 Oct. 1995

On page(s): 52 - 59

Meeting Date: 10/25/1995 - 10/28/1995

Location: San Antonio, TX

INSPEC Accession Number: 5119665

Digital Object Identifier: 10.1109/SPDP.1995.530664

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### Abstract

Many innovative schemes for allocating jobs to parallel computing systems have been proposed in order to achieve highly utilized parallel computing systems. The schemes have tried to achieve good job response times with little system fragmentation of processing resources. Since most schemes have concentrated on approaches for processor allocation, the schemes have used First-Come-First-Serve (FCFS) as the job scheduling discipline. However, it has been previously established that job scheduling algorithms for parallel computing systems can have a large impact on the system utilization and job response time. Schemes that use multiple queues, which reorder the sequence of jobs allocated to the parallel system, can be very effective in improving the system performance. However, such non-FCFS schemes have been criticized because they provide improved average performance by favoring small jobs at the expense of large jobs. In order to achieve improved performance by means of multiple queue job scheduling schemes without sacrificing the fairness of FCFS, we propose a new job scheduling discipline that behaves in a FCFS manner under low loaded conditions, but exploits performance enhancing features of multiple queue schemes under highly loaded conditions. In addition, the scheme does not inappropriately discriminate against large jobs

**Index Terms**  
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First-Come-First-Serve discrimination job allocation job response time job response times job scheduling job scheduling algorithms large jobs mesh multicomputer multiple queue job scheduling schemes multiple queues parallel computing systems processor allocation small jobs system fragmentation system performance system utilization

#### Author Keywords

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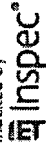
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